

CLAIMS

1. A cooled mirror device, comprising
a main mirror body and a mirror cover rigidly connected
to the main mirror body, wherein at least one of the main
mirror body and the mirror cover have a cooling device,
wherein the mirror cover is made from an aluminum material,
and is coated with a reflection-enhancing material to form a
reflection-enhancing mirror surface.
2. A device according to claim 1 wherein the main mirror
body is made from the aluminum material.
3. A device according to claim 1 wherein the cooling
device is a fluid cooling device comprising a spiral fluid
duct in the mirror cover.
4. A device according to claim 3 wherein the fluid duct
in the mirror cover is open in a direction towards an internal
flat side of the main mirror body, and is closed in a
connected condition of the main mirror body and the mirror
cover by the flat side, wherein the fluid duct has a nickel-
plating.

5. A device according to claim 4 wherein the nickel-plating extends substantially over the entire internal flat side of the main mirror body.

6. A device according to claim 4 wherein the nickel-plating is of a thickness of between 10 and 100 micrometers.

7. A device according to claim 3 wherein the fluid duct is adapted to be charged with cooling fluid by nickel-plated structures formed in the main mirror body.

8. A device according to claim 1 wherein the reflection enhancing mirror surface comprises copper.

9. A device according to claim 8 wherein the reflection-enhancing mirror surface comprises an electrolytic copper layer of a thickness of between 0.1 and 1.0 mm.

10. A device according to claim 8, wherein the reflection-enhancing mirror surface comprises an electrolytic copper layer of a thickness of between 0.1 and 0.5 mm.

11. A device according to claim 9 wherein the reflection-enhancing mirror surface is formed after assembly of the main mirror body and the mirror cover.

12. A device according to claim 1 wherein an adjusting plate, removably connected to the main mirror body, is provided for fixing the mirror device on a carrier unit.

13. A device according to claim 12 wherein the main mirror body has a flange portion which is in the form of an adjusting plate for fixing the mirror device on the carrier unit.

14. A device according to claim 13 wherein the cooling device is provided in the main mirror body.

15. A device according to claim 1 further including, in combination, a laser system with a wavelength in the range between 10 and 11 micrometers.

16. A device according to claim 1 further including, in combination, a laser system with a wavelength in the range of 10.6 micrometers.

17. A device according to claim 1 in combination with one of a beam deflection unit of a laser system and a laser focusing head.

18. A cooled mirror device, comprising
a main mirror body and a mirror cover rigidly connected
to the main mirror body, wherein one of the main mirror body
and the mirror cover have a cooling device comprising a spiral
fluid duct in the mirror cover, wherein the fluid duct has a
coating of an electrochemically neutral material.

19. A device according to claim 18, wherein the coating
is a nickel-plating.